Alexander Gottschalk

List of Publications by Year
in descending order

72 papers	8,260 citations	87723 38 h-index	88477 70 g-index
87 all docs	87 docs citations	87 times ranked	9570 citing authors

#	Article	IF	Citations
1	Multimodal fast optical interrogation of neural circuitry. Nature, 2007, 446, 633-639.	13.7	1,602
2	Light Activation of Channelrhodopsin-2 in Excitable Cells of Caenorhabditis elegans Triggers Rapid Behavioral Responses. Current Biology, 2005, 15, 2279-2284.	1.8	869
3	Lightâ€Controlled Tools. Angewandte Chemie - International Edition, 2012, 51, 8446-8476.	7.2	799
4	Genetically encoded calcium indicators for multi-color neural activity imaging and combination with optogenetics. Frontiers in Molecular Neuroscience, 2013, 6, 2.	1.4	629
5	Epidermal Growth Factor Signaling Promotes Sleep through a Combined Series and Parallel Neural Circuit. Current Biology, 2020, 30, 1-16.e13.	1.8	264
6	Cbf5p, a potential pseudouridine synthase, and Nhp2p, a putative RNA-binding protein, are present together with Gar1p in all H BOX/ACA-motif snoRNPs and constitute a common bipartite structure. Rna, 1998, 4, 1549-1568.	1.6	195
7	Real-time multimodal optical control of neurons and muscles in freely behaving Caenorhabditis elegans. Nature Methods, 2011, 8, 153-158.	9.0	192
8	Identification of the proteins of the yeast U1 small nuclear ribonucleoprotein complex by mass spectrometry. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 385-390.	3.3	191
9	Optogenetic analysis of synaptic function. Nature Methods, 2008, 5, 895-902.	9.0	184
10	Identification and characterization of novel nicotinic receptor-associated proteins in Caenorhabditis elegans. EMBO Journal, 2005, 24, 2566-2578.	3.5	160
11	Identification by mass spectrometry and functional analysis of novel proteins of the yeast [U4/U6middle dotU5] tri-snRNP. EMBO Journal, 1999, 18, 4535-4548.	3.5	154
12	<i>Caenorhabditis elegans</i> selects distinct crawling and swimming gaits via dopamine and serotonin. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17504-17509.	3.3	147
13	eat-2 and eat-18 Are Required for Nicotinic Neurotransmission in the Caenorhabditis elegans Pharynx. Genetics, 2004, 166, 161-169.	1.2	143
14	Photoswitchable diacylglycerols enable optical control of protein kinase C. Nature Chemical Biology, 2016, 12, 755-762.	3.9	112
15	Interaction of the U1 snRNP with nonconserved intronic sequences affects 5' splice site selection. Genes and Development, 1999, 13, 569-580.	2.7	107
16	Sensory Neuron Fates Are Distinguished by a Transcriptional Switch that Regulates Dendrite Branch Stabilization. Neuron, 2013, 79, 266-280.	3.8	104
17	Optogenetic manipulation of cGMP in cells and animals by the tightly light-regulated guanylyl-cyclase opsin CyclOp. Nature Communications, 2015, 6, 8046.	5.8	95
18	Keeping track of worm trackers. WormBook, 2013, , 1-17.	5.3	89

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19	PACÎ±- an optogenetic tool for in vivo manipulation of cellular cAMP levels, neurotransmitter release, and behavior in Caenorhabditis elegans. Journal of Neurochemistry, 2011, 116, 616-625.	2.1	82
20	Optogenetic manipulation of neural activity in <i>C. elegans</i>: From synapse to circuits and behaviour. Biology of the Cell, 2013, 105, 235-250.	0.7	80
21	Optogenetic Analysis of a Nociceptor Neuron and Network Reveals Ion Channels Acting Downstream of Primary Sensors. Current Biology, 2012, 22, 743-752.	1.8	75
22	BiPOLES is an optogenetic tool developed for bidirectional dual-color control of neurons. Nature Communications, 2021, 12, 4527.	5.8	73
23	Intestinal signaling to GABAergic neurons regulates a rhythmic behavior in <i>Caenorhabditis elegans</i>. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 16350-16355.	3.3	72
24	Fast cAMP Modulation of Neurotransmission via Neuropeptide Signals and Vesicle Loading. Current Biology, 2017, 27, 495-507.	1.8	71
25	Food Sensation Modulates Locomotion by Dopamine and Neuropeptide Signaling in a Distributed Neuronal Network. Neuron, 2018, 100, 1414-1428.e10.	3.8	69
26	Specific Expression of Channelrhodopsin-2 in Single Neurons of Caenorhabditis elegans. PLoS ONE, 2012, 7, e43164.	1.1	69
27	Regulation of nicotinic receptor trafficking by the transmembrane Golgi protein UNC-50. EMBO Journal, 2007, 26, 4313-4323.	3.5	65
28	High-throughput study of synaptic transmission at the neuromuscular junction enabled by optogenetics and microfluidics. Journal of Neuroscience Methods, 2010, 191, 90-93.	1.3	64
29	In vivo synaptic recovery following optogenetic hyperstimulation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3007-16.	3.3	64
30	A multispectral optical illumination system with precise spatiotemporal control for the manipulation of optogenetic reagents. Nature Protocols, 2012, 7, 207-220.	5.5	58
31	Microbial Light-Activatable Proton Pumps as Neuronal Inhibitors to Functionally Dissect Neuronal Networks in C. elegans. PLoS ONE, 2012, 7, e40937.	1.1	57
32	Optogenetic Long-Term Manipulation of Behavior and Animal Development. PLoS ONE, 2011, 6, e18766.	1.1	55
33	Bimodal Activation of Different Neuron Classes with the Spectrally Red-Shifted Channelrhodopsin Chimera C1V1 in Caenorhabditis elegans. PLoS ONE, 2012, 7, e46827.	1.1	55
34	An ER-resident membrane protein complex regulates nicotinic acetylcholine receptor subunit composition at the synapse. EMBO Journal, 2009, 28, 2636-2649.	3.5	50
35	AzoCholine Enables Optical Control of Alpha 7 Nicotinic Acetylcholine Receptors in Neural Networks. ACS Chemical Neuroscience, 2015, 6, 701-707.	1.7	49
36	RAB-5 and RAB-10 cooperate to regulate neuropeptide release in <i>Caenorhabditis elegans</i>. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 18944-18949.	3.3	47

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37	A consistent muscle activation strategy underlies crawling and swimming in<i>Caenorhabditis elegans</i>. Journal of the Royal Society Interface, 2015, 12, 20140963.	1.5	47
38	A Photoactivatable Botulinum Neurotoxin for Inducible Control of Neurotransmission. Neuron, 2019, 101, 863-875.e6.	3.8	45
39	Visualization of integral and peripheral cell surface proteins in live Caenorhabditis elegans. Journal of Neuroscience Methods, 2006, 154, 68-79.	1.3	44
40	Rhodopsin optogenetic toolbox v2.0 for light-sensitive excitation and inhibition in Caenorhabditis elegans. PLoS ONE, 2018, 13, e0191802.	1.1	44
41	Synthetic retinal analogues modify the spectral and kinetic characteristics of microbial rhodopsin optogenetic tools. Nature Communications, 2014, 5, 5810.	5.8	42
42	Direct probing of RNA structure and RNA-protein interactions in purified HeLa cellâ€™s and yeast spliceosomal U4/U6.U5 tri-snRNP particles 1 1Edited by J. Doudna. Journal of Molecular Biology, 2002, 317, 631-649.	2.0	39
43	A photosensitive degron enables acute light-induced protein degradation in the nervous system. Current Biology, 2015, 25, R749-R750.	1.8	39
44	A GABAergic and peptidergic sleep neuron as a locomotion stop neuron with compartmentalized Ca2+ dynamics. Nature Communications, 2019, 10, 4095.	5.8	39
45	Optogenetic analysis of GABA_Breceptor signaling in<i>Caenorhabditis elegans</i>motor neurons. Journal of Neurophysiology, 2011, 106, 817-827.	0.9	36
46	The yeast U5 snRNP coisolated with the U1 snRNP has an unexpected protein composition and includes the splicing factor Aar2p. Rna, 2001, 7, 1554-65.	1.6	36
47	A Novel Yeast U2 snRNP Protein, Snu17p, Is Required for the First Catalytic Step of Splicing and for Progression of Spliceosome Assembly. Molecular and Cellular Biology, 2001, 21, 3037-3046.	1.1	35
48	Rhodopsin-based voltage imaging tools for use in muscles and neurons of <i>Caenorhabditis elegans</i>. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17051-17060.	3.3	34
49	Context-dependent operation of neural circuits underlies a navigation behavior in <i>Caenorhabditis elegans</i>. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6178-6188.	3.3	32
50	Functionally asymmetric motor neurons contribute to coordinating locomotion of Caenorhabditis elegans. ELife, 2018, 7, .	2.8	32
51	Transcriptional adaptation in Caenorhabditis elegans. ELife, 2020, 9, .	2.8	32
52	Expanding the Optogenetics Toolkit by Topological Inversion of Rhodopsins. Cell, 2018, 175, 1131-1140.e11.	13.5	30
53	Caenorhabditis elegans nicotinic acetylcholine receptors are required for nociception. Molecular and Cellular Neurosciences, 2014, 59, 85-96.	1.0	26
54	Using a Robust and Sensitive GFP-Based cGMP Sensor for Real-Time Imaging in Intact <i>Caenorhabditis elegans</i>. Genetics, 2019, 213, 59-77.	1.2	23

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55	High-Throughput All-Optical Analysis of Synaptic Transmission and Synaptic Vesicle Recycling in Caenorhabditis elegans. PLoS ONE, 2015, 10, e0135584.	1.1	20
56	Endophilin A and B Join Forces With Clathrin to Mediate Synaptic Vesicle Recycling in Caenorhabditis elegans. Frontiers in Molecular Neuroscience, 2018, 11, 196.	1.4	19
57	The Conserved RIC-3 Coiled-Coil Domain Mediates Receptor-specific Interactions with Nicotinic Acetylcholine Receptors. Molecular Biology of the Cell, 2009, 20, 1419-1427.	0.9	17
58	Arrhythmogenic effects of mutated L-type Ca2+-channels on an optogenetically paced muscular pump in Caenorhabditis elegans. Scientific Reports, 2015, 5, 14427.	1.6	17
59	An optogenetic arrhythmia model to study catecholaminergic polymorphic ventricular tachycardia mutations. Scientific Reports, 2017, 7, 17514.	1.6	17
60	Microbial Rhodopsin Optogenetic Tools: Application for Analyses of Synaptic Transmission and of Neuronal Network Activity in Behavior. Methods in Molecular Biology, 2015, 1327, 87-103.	0.4	14
61	RIC-3 phosphorylation enables dual regulation of excitation and inhibition of<i>Caenorhabditis elegans</i>muscle. Molecular Biology of the Cell, 2016, 27, 2994-3003.	0.9	11
62	RPamide neuropeptides NLP-22 and NLP-2 act through GnRH-like receptors to promote sleep and wakefulness in C. elegans. Scientific Reports, 2020, 10, 9929.	1.6	9
63	Photoactivated Adenylyl Cyclases as Optogenetic Modulators of Neuronal Activity. Methods in Molecular Biology, 2014, 1148, 161-175.	0.4	7
64	Synapsin Is Required for Dense Core Vesicle Capture and cAMP-Dependent Neuropeptide Release. Journal of Neuroscience, 2021, 41, 4187-4201.	1.7	6
65	Optogenetic tools for manipulation of cyclic nucleotides functionally coupled to cyclic nucleotideâ€gated channels. British Journal of Pharmacology, 2022, 179, 2519-2537.	2.7	6
66	Photoactivated Adenylyl Cyclases as Optogenetic Modulators of Neuronal Activity. Methods in Molecular Biology, 2022, 2483, 61-76.	0.4	5
67	Optogenetic analyses of neuronal network function and synaptic transmission in Caenorhabditis elegans. E-Neuroforum, 2014, 5, 77-85.	0.2	1
68	Cholinergic Photopharmacology â€“ Controlling nicotinic and muscarinic Acetylcholine Receptors with Photoswitchable Molecules. FASEB Journal, 2015, 29, 933.5.	0.2	1
69	Optogenetic analyses of neuronal networks that generate behavior in <i>Caenorhabditis elegans</i>. Neuroforum, 2020, 26, 227-237.	0.2	1
70	Optogenetische Analyse der Funktion neuronaler Netzwerke und der synaptischen Transmission in Caenorhabditis elegans. E-Neuroforum, 2014, 20, 278-286.	0.2	0
71	DFG Schwerpunktprogramm (SPP) 1926 â€œNext Generation Optogenetics â€“ Tools and Applicationâ€ E-Neuroforum, 2017, 23, .	0.2	0
72	Microbial Rhodopsin Optogenetic Tools: Application for Analyses of Synaptic Transmission and of Neuronal Network Activity in Behavior. Methods in Molecular Biology, 2022, 2468, 89-115.	0.4	0